

RAMAKRISHNA MISSION VIDYAMANDIRA

(Residential Autonomous College affiliated to University of Calcutta)

B.A./B.Sc. FOURTH SEMESTER EXAMINATION, MAY 2024

SECOND YEAR [BATCH 2022-25]

COMPUTER SCIENCE [Honours]

Date : 22/05/2024

Time : 11 am – 1 pm

Paper : CC 9

Full Marks : 50

Answer any five questions:

[5×10]

1.
 - i) Why is it necessary for a Project Manager to decompose the tasks of a project using Work Breakdown Structure (WBS)?
 - ii) To what granularity level are the tasks decomposed? Explain your answer.
 - iii) Write down the differences between white-box and black-box testing. What is gray-box testing? [3+3+(3+1)]
2.
 - i) Provide three examples of software projects that would be amenable to the incremental model, prototyping model and waterfall model respectively.
 - ii) "The spiral model is a realistic approach to the development of large-scale systems and software" – Justify the statement with suitable example(s). [(3×2)+4]
3.
 - i) Discuss Prototyping model in detail.
 - ii) Discuss the features of a good SRS. [6+4]
4.
 - i) Write the difference between cohesion and coupling.
 - ii) Discuss the different types of cohesion. [4+6]
5.
 - i) Assume that the size of an organic type of software product has been estimated to be 32 KLOC. Assume that the average salary of a software developer is Rs. 15K/month. Determine the effort required to develop the software product, the nominal development time, and the cost to develop the product.
 - ii) What are the relative advantages of using either the LOC or the function point metric to measure the size of a software product for software project planning?
 - iii) Why does a project manager need to estimate the size of the project? [5+3+2]
6. What do you understand by the principles of abstraction and decomposition? Why are these two principles considered important in software engineering? Explain the problems that these two principles target to solve? Support your answer using suitable examples. [4+3+3]
7.
 - i) Write down the difference between structured chart and DFD.
 - ii) Write down the utility of data dictionary in SDLC.
 - iii) Draw a DFD for College Admission system. [3+2+5]